

PROJECT DESCRIPTION

I. GENERAL

This project involves the installation of a new Traffic Control Signal with street lighting and interconnect at the intersection of Center Street and Malcolm Drive in Carroll County. Interconnect cable shall be installed underground along Malcolm Drive south to MD 140. Center Street is assumed to run in an east-west direction.

II. INTERSECTION OPERATION

- The intersection is to operate in a NEMA three-phase, fully-actuated mode, with the Center Street approaches running concurrently. The Malcolm Drive approach shall run alone.
- A full-traffic-actuated, eight-phase controller with three (3) four-channel, rack mount loop detector amplifiers and associated harnesses housed in a NEMA size "6" base-mounted cabinet shall be installed at this intersection.

III. SPECIAL NOTES

- All field wiring to the existing controller cabinet shall be terminated to the appropriate controller cabinet connectors by the contractor and labeled. All other controller cabinet wiring will be performed by the S.H.A. Signal Shop. Contact Mr. Ed Rodenhizer at (410) 787-7650 seventy-two hours in advance of intended work.

EQUIPMENT LISTS (CON'T.)

EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR (CON'T.).

QUANTITY	SPEC. SECTION	DESCRIPTION
1020 L.F.	805	Furnish and install 3" polyvinyl chloride electrical conduit (Schedule 80) (trenched).
505 L.F.	805	Furnish and install 3" polyvinyl chloride electrical conduit (Schedule 80) (bored).
30 L.F.	805	Furnish and install 4" polyvinyl chloride electrical conduit (Schedule 80) (trenched).
800 L.F.		Remove existing pavement markings.
1 Each	807	Furnish and install control and distribution equipment.
16 Each	811	Furnish and install handhole (frame and cover).
400 L.F.	804	Furnish and install stranded bare copper ground wire (No. 6 A.W.G.).
2425 L.F.	810	Furnish and install loop wire (No. 14 A.W.G.) encased in 1/2" flexible tubing.
1875 L.F.	810	Furnish and install 2-conductor electrical cable (No. 14 A.W.G.) (aluminum shielded).
220 L.F.	810	Furnish and install 5-conductor electrical cable (No. 14 A.W.G.).
600 L.F.	810	Furnish and install 7-conductor electrical cable (No. 14 A.W.G.).
1360 L.F.	810	Furnish and install 12-pair telemetry cable (No. 19 A.W.G.) (jelly-filled).
355 L.F.	810	Furnish and install 2-conductor electrical cable (No. 12 A.W.G.) type THHN tray cable.
54 L.F.	812	Furnish and install wood sign supports (4" x 6").
2 Each	806	Furnish and install 250W-HPS luminaire.
2 Each	808	Furnish and install 15' lighting arm.
1 Each	800	Use existing plan on disk and as-built traffic control device.

PHASE CHART

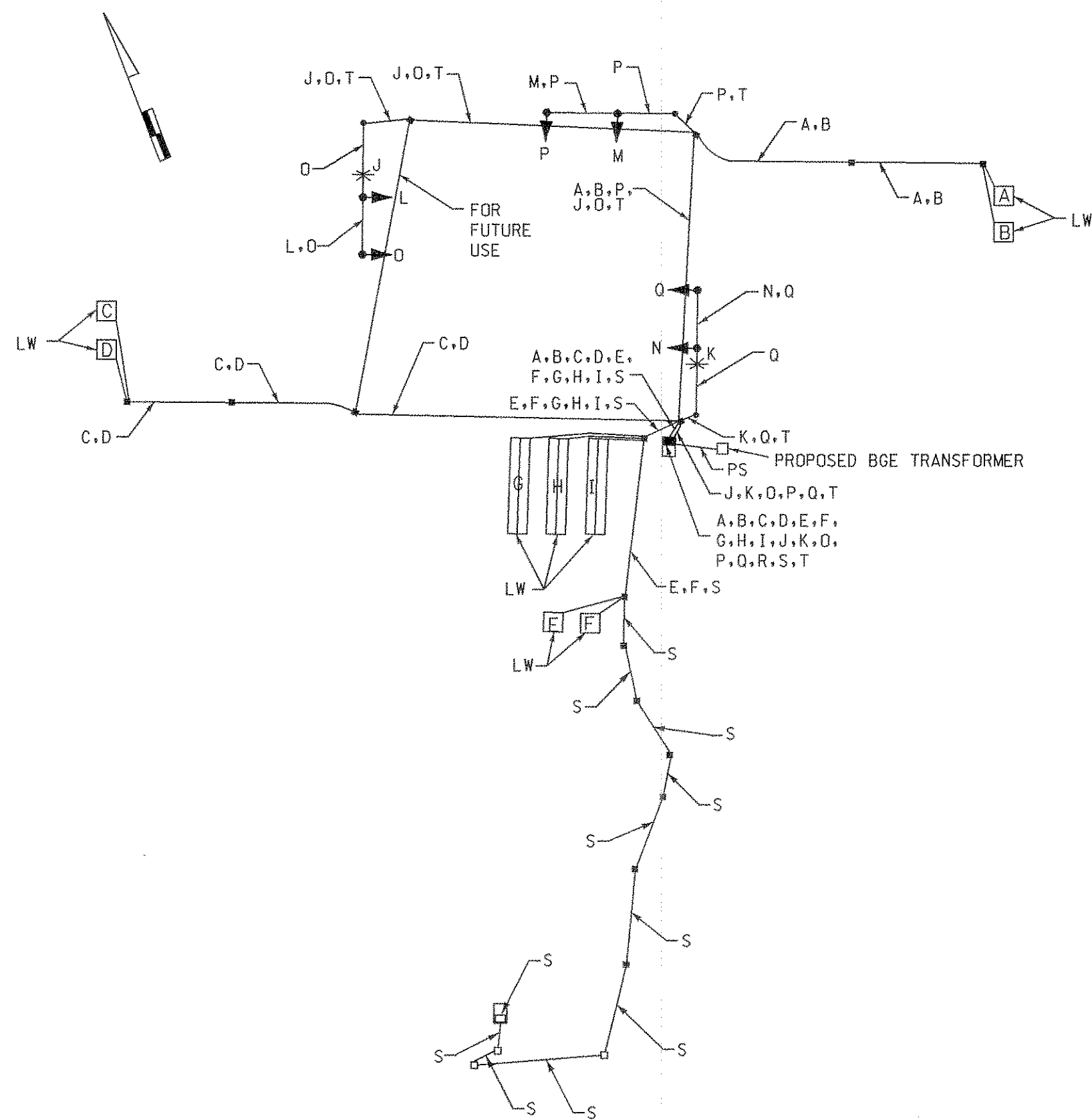
	1	2	3	4	5	6
	(R) (Y) (G)	(R) (Y) (G)	(R) (Y) (G)	(R) (Y) (G)	(R) (Y) (G)	(R) (Y) (G)
PHASE 2 & 6	G	G	G	G	R	R
2 & 6 CHANGE	Y	Y	Y	Y	R	R
PHASE 4	R	R	R	R	G	G
4 CHANGE	R	R	R	R	Y	Y
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R

EQUIPMENT LISTS

EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR.

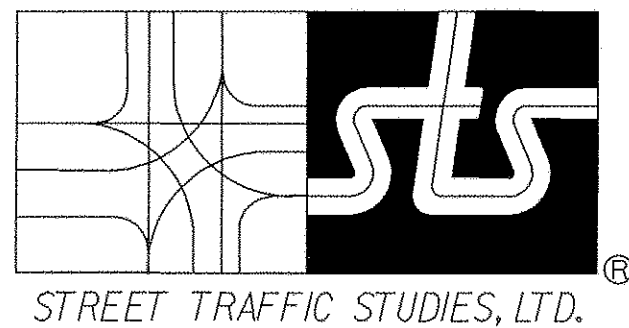
QUANTITY	SPEC. SECTION	DESCRIPTION
6 Each	814	Furnish and install 12", one-way, three-section (R,Y,G) traffic signal head with adjustable bracket for mast arm mounting and tunnel visors.
1 Each	816	Furnish and install eight-phase, full-traffic-actuated, solid state digital controller with three (3) four-channel, rack mount loop detector amplifiers and associated harnesses housed in a NEMA size "6" base-mounted cabinet.
35 S.F.	813	Furnish and install ground mounted sheet aluminum signs to consist of: 3 Each W3-3 NEW "SIGNAL AHEAD" sign, (36" x 36") ground mounted with hardware. 1 Each W1-7 "LEFT / RIGHT ARROWS" sign (24" x 48") mounted on wood barricade.
36 S.F.	813	Furnish and install overhead mounted sheet aluminum signs to consist of: 2 Each D3-2 "Malcolm DR" dual faced sign, (variable x 16") mast arm mounted. 1 Each D3-2 "Center ST" dual faced sign, (variable x 16") mast arm mounted. 1 Each R3-5L "LEFT TURN ONLY" sign (30" x 36") mast arm mounted. 1 Each R3-5R "RIGHT TURN ONLY" sign (30" x 36") mast arm mounted.
L.S.	106	Mobilization
L.S.	106	Maintenance of traffic.
150 S.F.	104	Temporary traffic sign.
15 U.D.	105	Flashing arrow panels.
3 Each	204	Test pit excavation.
110 L.F.	951	Furnish and install heat applied permanent preformed thermoplastic pavement marking material, white (24"width for stoplines).
340 L.F.	951	Furnish and install heat applied permanent preformed thermoplastic pavement marking material, white (5"width for lane lines).
2 Each	951	Furnish and install heat applied permanent preformed thermoplastic pavement marking arrow (Left).
2 Each	951	Furnish and install heat applied permanent preformed thermoplastic pavement marking arrow (Right).
2 Each	951	Furnish and install heat applied permanent preformed thermoplastic pavement marking arrow (ONLY).
5 Each		Remove existing ground mounted sign.
11 C.Y.	801	Furnish and install concrete foundation.
4 Each	804	Furnish and install ground rod, 3/4" diameter x 10' length.
3 Each	818	Furnish and install 27' steel pole with a 50' mast arm. (Note: 4 anchor bolts will be 1 3/4" x 90".)
575 L.F.	815	Furnish and install sawcut.
50 L.F.	805	Furnish and install 1" liquid tight flexible non-metallic electrical conduit (detector wire sleeve).
515 L.F.	805	Furnish and install 2" polyvinyl chloride electrical conduit (Schedule 80) (trenched).

WIRING DIAGRAM



WIRING KEY

A B C D E F G H I	{	2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.) (ALUMINUM SHIELDED)
J K		2-CONDUCTOR ELECTRICAL CABLE (NO. 12 A.W.G.) TYPE THHN TRAY CABLE
L M N	{	5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
O P Q		7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
R	-	1-CONDUCTOR ELECTRICAL CABLE (NO. 4 A.W.G.)
S	-	12-PAIR TELEMETRY CABLE (NO. 19 A.W.G.) (JELLY-FILLED)
T	-	STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
LW	-	LOOP WIRE (NO. 14 A.W.G.)
PS	-	PROPOSED UNDERGROUND SERVICE TO BE INSTALLED BY BG&E.



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346191.DGN

REVISIONS

APPROVALS

ASST. CHIEF, TEDD SECTION

ASST. DISTRICT ENGINEER, TRAFFIC

CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION

DIRECTOR, TRAFFIC & SAFETY



MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety

TRAFFIC ENGINEERING DESIGN DIVISION

GENERAL INFORMATION

CENTER STREET AND MALCOLM DRIVE

DRAWN BY: THACKER

CHECK BY: R. R. ZACHERL

DATE: 7-16-99

SCALE: N/A

COUNTY: CARROLL

LOG MILE: _____

F.A.P. NO. _____

S.H.A. NO. _____

TS NO.

T.I.M.S. NO.

SHEET NO.

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